

I. REMARKS/ARGUMENTS

In the Office Action, the Examiner rejected independent Claims 1, 2, 8 and 15, and dependent Claim 3 under 35 U.S.C. §102(b) as being anticipated by Frye, U.S. Patent 4,715,624. The undersigned attorney respectfully traverses the Examiner's rejection of independent Claims 1, 2, 8, and 15, and dependent Claim 3 in view of the following argument for the reason that the claims are not anticipated by Baron.

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. §102 is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof, functioning in substantially the same way to produce substantially the same results. As most recently noted by the Court of Appeals of the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick*, 221 USPQ 481, 485 (Fed. Cir.1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. §102, the Court stated:

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim."

Applicant's independent Claims 1, 2, 8, and 15 all require:

- "1. A composite sleeve seal comprising:
a body portion including at least **one collar section** having at least **one link segment** extending therefrom; and
at least one seal portion contiguous with said at least one collar section and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to form said composite sleeve seal as one integral component."
- "2. A composite sleeve seal for sealing a conduit connection, said composite sleeve seal comprising:

a body portion including a plurality of collar sections spaced apart from one another to define **at least one gap therebetween**, said collar sections being interconnected by **at least one link** segment spanning said at least one gap; and

at least one seal portion interposed said plurality of collar sections in said at least one gap and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to form said composite sleeve seal as one integral component.”

“8. A fluid-tight conduit connection comprising:
a female component;

a male component positioned within said female component such that said female component circumscribes said male component; and

a composite sleeve seal circumscribing said male component such that said composite sleeve seal is interposed said male and female components for sealing said fluid-tight conduit connection, said composite sleeve seal comprising:

a body portion including **a plurality of collar sections** interconnected by **at least one link segment**; and

at least one seal portion interposed said plurality of collar sections and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to integrate said composite sleeve seal;

whereby said at least one seal portion is compressed by said male and said female components to primarily seal said fluid-tight conduit connection.”

“15. A composite sleeve seal comprising:

a body portion including **at least one collar section** having **at least one link segment** extending therefrom; and

at least one seal portion disposed in axial prolongation with respect to said at least one collar section, said at least one seal portion being molded around at least a portion of said at least one link segment to interlock said at least one seal portion with said body portion to form said composite sleeve seal as one integral component.”

It is respectfully asserted that Frye fails to disclose each and every element of Applicant's independent claims. Specifically, Frye fails to disclose the following elements of Applicant's independent claims:

A body portion... as recited in independent Claims 1, 2, 8 and 15;

At least one collar... as recited in Applicant's independent Claims 1, 2, 8 and 15;

At least one link segment...as recited in Applicant's independent Claims 1, 2, 8 and 15;

At least one sealed portion...as recited in Applicant's independent Claims 1, 2, 8 and 15;

At least one gap...as recited in Applicant's independent Claim 2;

The mounting surface...as recited in Applicant's dependent Claim 12;

A through bore...as recited in Applicant's dependent Claim 12;

A chamfer...as recited in Applicant's dependent Claim 12;

A transition surface...as recited in Applicant's dependent Claim 12; and

A tapered surface...as recited in Applicant's independent Claim 7.

The Examiner indicated in the Office Action of June 3, 2003, paper number 12, that Frye's elements 12 and 13 of the embodiment disclosed read on Applicant's male and female components and that element 16 reads on Applicant's at least one seal portion. Other than these three specific elements, the Examiner completely fails to identify by reference characters or otherwise any specific element as recited in Applicant's claims that is disclosed in the prior reference. To attempt to support the rejections set forth under 35 U.S.C. §102, the Examiner included in the official Office

Action a copy of Figure 6 and selectively designated portions of the figure utilizing Applicant's claim language and completely neglecting the physical disclosure of Frye, U.S. Patent No. 4,715,624. While the disclosure of Frye speaks for itself, the Examiner chooses to identify element 14 of Frye as a collar when the patent clearly discloses such element to be a piston. Further, the Examiner arbitrarily chooses to identify a portion of the piston as a link when here once again, the disclosure of Frye is completely silent with respect to the use of a link or collar. Clearly, this is completely contrary to the law as set forth in *Lindemann Maschinenfabrick GmbH (supra)* and accordingly completely improper as a basis for the 35 U.S.C. §102 rejection. Also, the fact that this reference is being used to reject the claims following the withdrawal of an appeal, is not well taken especially since the reference has been on the record since the issue of paper number 5 and yet never once used to reject Applicant's claims.

Since the Examiner chose to include Figure 6 of the Frye reference in the Office Action, the undersigned assumes that the Examiner is under the provisions of MPEP §2104 and §2125, using this drawing as prior art and neglecting to associate the written disclosure of the reference directly relating to the drawing in the prior art reference. In any event, in order to accomplish this, and if the drawing must indeed be evaluated for what it reasonably discloses and suggests to one of ordinary skill in the art, Figure 6 as depicted, clearly fails to show the claimed structural features and how they are put together. In fact, the structural interrelationship between the elements of the invention shown in Figure 6 is completely neglected by the Examiner and in lieu thereof the Examiner is using the structural relationships as recited in the claims of the Applicant's invention. Again, the law is quite clear with respect to the anticipation of a

claim, for purposes of a rejection under 35 U.S.C. §102. *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co. (supra)* clearly requires that the reference discloses all of the elements of the claimed combination, ordered mechanical equivalence thereof, functioning and substantially the same weight to produce substantially the same results. Accordingly, Applicant respectfully submits that the Frye reference does not disclose each and every element arranged as in the claim of any of Applicant's independent claims. Therefore in applying the test for anticipation as set forth above in *Lindemann*, Frye does not anticipate either independent Claims 1, 2, 8 or 15. Further, under principles of claimed dependency, Frye does not anticipate any of the dependent claims either. Accordingly, reconsideration and withdraw of the rejection of Claims 1 through 3, and 8 under 35 U.S.C. §102(b) is respectfully requested.

In the Office Action, the Examiner rejected Claims 4 through 6 and 9 through 11 under 35 U.S.C. §103(a) as being unpatentable over the teachings of Frye in view of the teachings of Thomas, U.S. Patent No. 2,809,060.

Applicant's attorney respectfully asserts that Applicant's invention is allowable also for the reason that Applicant's invention is not an obvious improvement over the prior art. With respect to a rejection under 35 U.S.C. §103, it is noted in MPEP §706 that the standard of patentability to be followed in the examination of a patent application is that which was enunciated by the Supreme Court in *Graham v. John Deere*, 148 USPQ 459 (1966), where the Court stated:

"Under Section 103, the scope and the content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved."

Accordingly, to establish a prima facie case of obviousness, the Patent Office must; (1) set forth the differences in the claim over the applied references; (2) set forth the proposed modification of the references which would be necessary to arrive at the claimed subject matter; and (3) explain why the proposed modifications would be obvious. To satisfy step (3) above, the Patent Office must identify where the prior art provides a motivating suggestion, inference or implication to make the modifications proposed in step (2) above. *In re Jones*, 21 USPQ2d 1941 (Fed. Cir. 1992). Prior to discussing the unobviousness of the present invention over the prior art, the problems, teachings, and disclosure of each of the Baron reference and Applicant's invention will be set forth, then the differences of the present invention over the prior art reference will be set forth.

Frye, U.S. Patent No. 4,715,624 is directed to problems associated with thermal coefficients of expansion of gas pipes where it is common to use a steel pipe above the ground and plastic pipe underground. Accordingly, any transition fitting that is used must overcome considerable differences in temperate coefficients of expansion of the two materials.

To solve this problem, Frye teaches a transmission fitting having at one end a T section. Within an inner end of the pipe section of the T is a hollow cylindrical piston like member 14 having an outer diameter that is slightly less than the inner diameter of a pipe section 11'. A plurality of circumferentially extending grooves 15 include an O-ring 16, the overall dimension of the cylinder 14, and O-ring 16 being such as to provide a snug sealing fit within the pipe section while, at the same time, enabling both rotation and sliding movement of the piston member with respect to the pipe

section. The piston is constructed of polyethylene and the O-rings are of a rubber like material such as neoprene. The plastic piston also has an internal metal stiffener sleeve 16' to provide dimensional stability underneath the O-rings. Appropriate stop means are provided at both ends of the piston like member to serve as limits for movement of the piston like member along the longitudinal axis of the pipe section. These limits consist of special flanges machined in the pipe section, or, alternatively, the pipe section itself may be rolled such to provide an inwardly directed circumferentially extending ridge. Two embodiments of the stop means are provided. One providing no relative longitudinal movement of the piston like member while not restricting rotation of the member and a certain amount of transfer movement while a second embodiment, the stop limits, are arranged to provide an extensive length of the pipe section through which the piston like member may move longitudinally or on the similar expansion of the plastic and metal parts or to relieve mechanical stresses which are developed in the pipes from other sources, such as from direct pressure contact made with the plastic pipe.

Thompson, U.S. Patent No. 2,809,060, is directed to the difficulty of removing a seal or seat from an annular resilient ring inserted into a body, which exerts a radial component forced against a body sufficient to hold it into position against the usual removal forces.

To accomplish this, Thompson teaches an annular sealing ring of resilient material, which has embedded in the edges thereof a relatively stiff material that is broken in at least two locations to form areas of the texture. The annular seat is provided with perforated metallic edges, which are embedded in the edges of the annular seal at approximately the mid center section thereof. The seals are generally formed by molding

and in this molding process the metallic perforated portions are molded integral with the seal. The metallic portions are broken at designated areas so as to form separate metallic portions at each edge. Accordingly, a resilient member which has been flexed to a smaller diameter may be readily inserted into the casing.

In the Office Action, the Examiner rejected Claims 7, 12 and 13 under 35 U.S.C. §103(a) as being unpatentable over the teachings of Frye in view of the teachings of Hansel et al., U.S. Patent No. 5,879,033. Hansel et al., is directed to the problems of prior art post connectors of the type disclosed in German Patent DE4413346 C2 wherein a free end of such connectors have a conically widening beveled plug edge and an adjoining cylindrical staff with several truncated expansions, as well as an annular contact flange at the end of the plug in area. In order to achieve a better fit of such connectors, the tube or hose nipples are already in use, with a conical taper at the backside of the first truncated expansion and an encircling groove between the expansion and the taper, in which is embedded an annular gasket ring round in cross section.

Hansel et al., teaches a hose connector wherein a connector with its truncated expansion and taper is designed in such a way that the end of the hose or tube can be slipped over the gasket ring without stressing or even slightly damaging the latter with its sharp leading edge. Hansel et al. teaches a hose connection wherein the first truncated expansion has a surface area and an opening angle at about 45 degrees in relation to the surface of the shaft and is oriented so as to provide a slight clearance past the outer surface of the gasket ring, while the surface area of the succeeding taper has a significantly flatter angle of inclination of about 20-30 degrees in relation to the surface area of the tube and its rearward projection is tangent to the outer surface. This type of

connection prevents fuel flowing through the plug type connection from coming into contact with the gasket ring, so that the latter cannot be corroded away by the known aggressive fuel over the course of time.

Applicant's invention is directed to the problem in the prior art associated with machining O-ring grooves in the end of a tube and with poor sealability of tubular connections in general. Applicant teaches a composite sleeve seal that can easily be slipped over the end of a tube and that provides a seal that is superior to that achievable with conventional O-rings disposed in grooves of a tube end. The composite sleeve seal includes at least one relatively rigid body portion that is collar-like in shape. Link segments integrally and axially extend from the body portion. A seal portion that looks like an O-ring is molded to the body portion so as to surround the link segments such that the seal portion interlocks with the body portion. Clearly, there are significant differences between Applicant's invention and the teachings of Frye combined with either Hansel et al. or the teachings of Thompson. First, it is clearly set forth above, Frye teaches a hollow cylindrical plastic piston having a plurality of O-rings thereabout slidingly and sealingly received within the open end of a metal section of pipe connected to the main line pipe. A plastic carrier pipe is fixedly received within the outwardly facing end of the piston for suitable interconnection to other equipment. First and second stop limits are spaced along the pipe section to locate the piston within the pipe section. By appropriate provision of the stop limits the plastic piston is allowed to tolerate considerable differences in temperate coefficients of expansions of the two materials so as to accommodate the working of the pipes and interconnecting parts resulting from unequal expansion and contractions, in order to preserve the interconnection between the two as well as to prevent

breakage or damage. In contrast, Applicant teaches a composite or intermediate sleeve that is mounted over a male tube end and is received by a female tube end. The composite sleeve is a molded, section collar having spaced apart sealed portions that are continuous with the collar sections and are positively interlocked with the collar sections. The composite sleeve seal includes a body portion having annular collar sections spaced apart from each other to define gaps therebetween. The annular collar sections are interconnected by link segments spanning the gaps. The sealed portions interpose the collar sections in the gaps and surrounds the link segments to interlock the sealed portions within the body portion to form a composite seal as an integral component. In conventional fittings, the male component has a set of grooves containing O-rings that are compressed by the female component to create a seal. With the present invention neither the male component nor the female component has O-rings or O-ring grooves. There are no O-rings, machine grooves, ridges, or ribs on either the male component or the female component. Instead, the composite sleeve of the present invention is positioned between the male tubular member or the female tubular member thereby creating a seal. Without machined grooves, the tube end forming process is much simpler and a more controllable manufacturing process results with a higher quality product.

There is absolutely no motivation anywhere in any of these references to combine the teachings of either the Hansel et al. or Thompson references in an attempt to obviate Applicant's invention in view of the teachings of the primary reference Frye. Accordingly, the Examiner has completely failed the burden as set forth in MPEP §706.02(j), with respect to the requirements to establish a prima facie case of obviousness. Further, the Examiner has completely failed to meet the requirements set forth in MPEP

§2141-2144.09 with regard to the requirements for a proper 35 U.S.C. §103 obviousness rejection.

If, as the Examiner suggests, the teachings of Frye are combined with the teachings of Thompson or Hansel et al., in an attempt to obviate Applicant's invention, it is clear from the teachings that the suggested combination could not possibly result in Applicant's invention and would in fact require extensive additional structure in an attempt to acquire similar results. Even if accomplished, it must be pointed out that if the sealing member of Thompson is combined with Frye, or the host connector of Hansel et al., such combination would have absolutely no effect and would be indeed incompatible with each other or alternatively would require significant additional structure which would certainly be incompatible with itself in view of the teachings of each of the references and in fact would be technologically incorrect in view of the objective set forth in Applicant's invention. Further, the combination of Hansel et al. with the teachings of Frye would be inoperative in view of the objectives set forth in Frye.

Even if as the Examiner suggests the teachings are combined, one skilled in the art would have no basis for making such a combination of the teachings of either Hansel et al. or Thompson with Frye since neither of these references are directed to the problems solved by Applicant's invention nor is Frye, Hansel et al. or Thompson directed to teaching a composite sleeve element as set forth in the claims. It is respectfully suggested that, but for the disclosure made by the Applicant in the application, there is no suggestion whatsoever to combine the teachings of Frye with Hansel et al. or Thompson in order to obviate Applicant's invention as taught by the claims presently pending in the application. Thus, it is only through Applicant's teachings and disclosure that one of

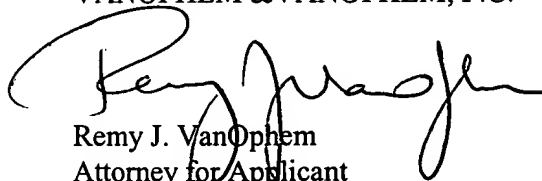
ordinary skill in the art would appreciate the need for a composite sleeve seal as set forth in the independent claims. In view of this, a person of ordinary skill in the art would not seek to combine these references cited by the Examiner to produce the results that Applicant's invention as now claimed teaches. It is well settled patent law that the mere fact that a disclosure can some how be combined with other references does not make that combination obvious unless the prior art contains some suggestion of the desirability of combining the prior art references. Here, the prior art contains absolutely no suggestion whatsoever for combining the references as set forth in the Examiner's rejection to teach the invention as claimed according to Applicant's disclosure. Therefore, it is respectfully suggested that the Examiner is using hindsight reconstruction in an attempt to obviate Applicant's invention after having the benefit of reading Applicant's application. Absent recognition of the problem faced by the Applicant, the prior art cannot possibly suggest, singularly or in combination, a solution as novel as Applicant's invention. Accordingly, Applicant's invention is an unobvious improvement over the prior art and not an obvious modification of any of the references cited by the Examiner. When viewed singularly or collectively, none of the prior art references teach a novel composite sleeve seal as set forth in the claims.

In view of the foregoing remarks, the undersigned attorney respectfully submits that the pending independent claims as well as the dependent claims are clearly allowable. Therefore, Applicant's attorney respectfully requests that the Examiner's rejections under 35 U.S.C. §103 be withdrawn from the claims as submitted herein and that a formal Notice of Allowance be issued therefor.

If the Examiner has any questions with respect to any matter now of record, Applicant's attorney may be reached at (586) 739-7445.

Respectfully submitted,

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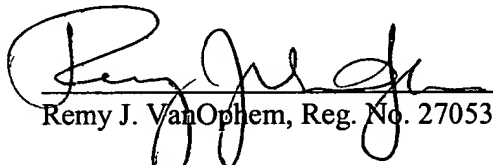
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Date: October 3, 2003



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